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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,215	09/22/2005	Gary Escher	277605US6YAPCT	1669

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EXAMINER	
YEVSIKOV, VICTOR V	
ART UNIT	PAPER NUMBER
2891	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/09/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/09/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/550,215	ESCHER ET AL.	
	Examiner	Art Unit	
	Victor V. Yevsikov	2891	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 January 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *2 and 13* is/are withdrawn from consideration.

5)☒ Claim(s) *4, 15* is/are allowed.

6)☒ Claim(s) *1,3,5-12,14 and 16-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 September 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *01/18/07*.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1, 3, 5-12, 14 and 16-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the present instance (claims 1 and 12), term "spray coating" is broad which might include multiple well-known spraying processes and does not explain what the "spray" specifically refers to. Even specification in the paragraph [00028] (p.7) disclosing "thermal spray" does not specify aforementioned term.

Allowable Subject Matter

2. Claims 4 and 15 are allowed.

The following is an examiner's statement of reasons for allowance:

For claims 4 and 15, prior art does not teach a forming a protective barrier on a processing element utilized in a processing system for performing a process, wherein the protective layer is coupled to the bonding layer after at least a portion of the outer layer is removed using at least one of polishing, grinding, and grit blasting.

Shatrov (U.S. 2003/0188972) and Daragheh (US 2003/0150419) teach a process and device for forming ceramic coatings on metals.

However, the art of record does not disclose or anticipate the above limitation in combination with other claim elements nor would it be obvious to modify the art of record so as to form a device including the above limitation.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 5 –12 and 16 –19 are rejected under 35 U.S.C. 102(a) as being anticipated by Shatrov (U.S. 2003/0188972).

With respect to claims 1 and 12, Shatrov teaches a method of forming a protective barrier on a processing element and a protective barrier on a processing element utilized in a processing system for performing a process comprising:

a bonding layer 200 coupled to the processing element 100, wherein the bonding layer 200 comprises a layer formed using plasma electrolytic oxidation (§§ 0004, 0005; 0069, 0081, and

a protective layer 300 coupled to the bonding layer and configured to be exposed to the process with reference to Fig. 3.

Regarding claims 5 – 8 and 16 –19, Shatrov teaches the protective layer 300 comprises a compound containing at least one of a III-column element Yttrium and Lanthanum, Cerium, and oxides of Al, Y, Ce ((§§ 0056, 0081).

Regarding claim 9, Shatrov teaches the processing element 100 comprises a metal, a silicon based material, and a ceramic (abstract; §§ 0004, 0069, 0081; fig.3).

Regarding claim 10, Shatrov teaches the processing element comprises aluminum (table 1).

Regarding claim 11, Shatrov teaches the process comprises a plasma (see abstract).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shatrov in view of Daragheh (US 2003/0150419).

With respect to claims 3 and 14, Shatrov teaches the features detailed previously, but lacks a discussion on the method, wherein the bonding layer comprises a transition layer, a primary layer, and an outer layer.

However, Daragheh teaches a method, wherein the bonding layer comprises a transition layer, a primary layer, and an outer layer (§§ 0005, 0006, 0017) and this coating is a complex oxide ceramic produced by surface oxidation electrolysis of aluminum) for the benefit of providing a good bond, wear resistance and thermal insulating effect in paragraph 17.

Therefore, it would have been obvious to one of ordinary skill in the art to use protective barrier using multilayer coatings for the benefit of providing a good bond, wear resistance and thermal insulating effect as taught by Daragheh in paragraph 17.

Response to Arguments

7. Applicant's arguments with respect to claim 1, 3, 5 –11 have been considered, but they are not persuasive. The combinations detail each and every element of

applicant's claims or further show the invention of applicant's is an obvious development from the prior art.

Regarding claim 1 applicants have amended independent claims 1 recite a bonding layer coupled to a processing element, and a protective layer coupled to the bonding layer, the protective layer being a spray coating. Support for this limitation is provided at least by paragraph [0028] of Applicants' specification as originally filed.

The language, term, or phrase "the protective layer is a spray coating", is directed towards the process of making a protective layer. It is well settled that "product by process" limitations in claims drawn to structure are directed to the product, per se, no matter how actually made. In re *Hirao*, 190 USPQ 15 at 17 (footnote 3). See also, In re *Brown*, 173 USPQ 685; In re *Luck*, 177 USPQ 523; In re *Fessmann*, 180 USPQ 324; In re *Avery*, 186 USPQ 161; In re *Wethheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); In re *Marosi* et al., 218 USPQ 289; and particularly In re *Thorpe*, 227 USPQ 964, all of which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or otherwise. The above case law further makes clear that applicant has the burden of showing that the method language necessarily produces a structural difference. As such, the language "the protective layer is a spray coating" only requires a protective layer, which does not distinguish the invention from Shatrov, who teaches the structure as claimed.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor Yevsikov whose telephone number is (571) 272-1910. The examiner can normally be reached on Monday –Thursdays 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, examiner's supervisor, William B. Baumeister, can be reached on (571) 272-1722. The fax phone numbers for the organization where this application or processing is assigned is (703) 873-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information

about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

V. Yevsikov

Victor Yevsikov
Examiner
Art Unit 2891

March 2, 2007

C. Chaudhari

Chandra Chaudhari
Primary Examiner